SM-16/2

ORDERCODE 50701

SHOWELECTRONICS FOR PROFESSIONALS

Congratulations!
You have bought a great, innovative product from Showtec.
The Showtec SM-16/2 brings excitement to any venue. Whether you want simple plug-&-play action or a sophisticated DMX show, this product provides the effect you need.

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We design and manufacture professional light equipment for the entertainment industry.
New products are being launched regularly. We work hard to keep you, our customer, satisfied.
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You can get some of the best quality, best priced products on the market from Showtec.
So next time, turn to Showtec for more great lighting equipment.
Always get the best -- with Showtec !

Thank you!

Showtec

Showtec SM-16/2™ Product Guide

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WARNING

CAUTION!
Keep this device away from rain and moisture!

FOR YOUR OWN SAFETY, PLEASE READ THIS USER MANUAL CAREFULLY BEFORE YOUR INITIAL START-UP!

SAFETY INSTRUCTIONS

Every person involved with the installation, operation and maintenance of this device has to:

- be qualified
- follow the instructions of this manual

CAUTION! Be careful with your operations.
With a dangerous voltage you can suffer
a dangerous electric shock when touching the wires!

Before your initial start-up, please make sure that there is no damage caused by transportation. Should there be any, consult your dealer and do not use the device.

To maintain perfect condition and to ensure a safe operation, it is absolutely necessary for the user to follow the safety instructions and warning notes written in this manual.

Please consider that damages caused by manual modifications to the device are not subject to warranty.

This device contains no user-serviceable parts. Refer servicing to qualified technicians only.

IMPORTANT:

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual or any unauthorized modification to the device.

- Never let the power-cord come into contact with other cables! Handle the power-cord and all connections with the mains with particular caution!
- Never remove warning or informative labels from the unit.
- Do not open the device and do not modify the device.
- Do not insert objects into air vents.
- Do not connect this device to a dimmerpack.
- Do not switch the device on and off in short intervals, as this would reduce the device's life.
- Only use device indoor, avoid contact with water or other liquids.
- Avoid flames and do not put close to flammable liquids or gases.
- Always disconnect power from the mains, when device is not used or before cleaning! Only handle the power-cord by the plug. Never pull out the plug by tugging the power-cord.
- Make sure that the device is not exposed to extreme heat, moisture or dust.
- Make sure that the available voltage is not higher than stated on the rear panel.
- Make sure that the power-cord is never crimped or damaged. Check the device and the power-cord from time to time.
- If device is dropped or struck, disconnect mains power supply immediately. Have a qualified engineer inspect for safety before operating.
- If the device has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The arising condensation water might damage your device. Leave the device switched off until it has reached room temperature.
- If your Showtec device fails to work properly, discontinue use immediately. Pack the unit securely (preferably in the original packing material), and return it to your Showtec dealer for service.

- Repairs, servicing and electric connection must be carried out only by Showtec.
- For replacement use fuses of same type and rating only.
- This device falls under protection class I. Therefore it is essential to connect the yellow/green conductor to earth.
- WARRANTY: Till one year after date of purchase.

OPERATING DETERMINATIONS

This device is not designed for permanent operation. Consistent operation breaks will ensure that the device will serve you for a long time without defects.

If this device is operated in any other way, than the one described in this manual, the product may suffer damages and the warranty becomes void.

Any other operation may lead to dangers like short-circuit, burns, electric shock, lamp explosion, crash etc.

You endanger your own safety and the safety of others!

Improper installation can cause serious damage to people and property !

Connection with the mains

Connect the device to the mains with the power-plug.
Always pay attention, that the right color cable is connected to the right place.

International	EU Cable	UK Cable	US Cable	Pin
L	BROWN	RED	YELLOW/COPPER	FASE
N	BLUE	BLACK	SILVER	NUL
⏚	YELLOW/GREEN	GREEN	GREEN	EARTH

Make sure that the device is always connected properly to the earth!

⚠ Return Procedure ⚠

Returned merchandise must be sent prepaid and in the original packing, call tags will not be issued. Package must be clearly labeled with a Return Authorization Number (RMA number). Products returned without an RMA number will be refused. Highlite will not accept the returned goods or any responsibility. Call Highlite 0031-455667723 or mail aftersales@highlite.nl and request an RMA prior to shipping the fixture. Be prepared to provide the model number, serial number and a brief description of the cause for the return. Be sure to properly pack fixture, any shipping damage resulting from inadequate packaging is the customer's responsibility. Highlite reserves the right to use its own discretion to repair or replace product(s). As a suggestion, proper UPS packing or double-boxing is always a safe method to use.

Note: If you are given an RMA number, please include the following information on a piece of paper inside the box:

1) Your name
2) Your address
3) Your phone number
4) A brief description of the symptoms

Claims

The client has the obligation to check the delivered goods immediately upon delivery for any short-comings and/or visible defects, or perform this check after our announcement that the goods are at their disposal. Damage incurred in shipping is the responsibility of the shipper; therefore the damage must be reported to the carrier upon receipt of merchandise.

It is the customer's responsibility to notify and submit claims with the shipper in the event that a fixture is damaged due to shipping. Transportation damage has to be reported to us within one day after receipt of the delivery.

Any return shipment has to be made post-paid at all times. Return shipments must be accompanied with a letter defining the reason for return shipment. Non-prepaid return shipments will be refused, unless otherwise agreed in writing.

Complaints against us must be made known in writing or by fax within 10 working days after receipt of the invoice. After this period complaints will not be handled anymore.

Complaints will only then be considered if the client has so far complied with all parts of the agreement, regardless of the agreement of which the obligation is resulting.

Description of the device

Features

The SM-16/2 is a light controller from Showtec and features:

- Universal DMX-512 controller
- Controls up to 384 DMX channels; up to 12 intelligent lights with 32 channels each
- 30 banks of 8 scenes, 240 scenes max
- 30 banks of 6 chases containing 180 chases
- Patch mode: Each fixture free assignable channels
- Programmable Speed and Fade time
- Reversable sliders
- Sequential linking of chases
- Re-assignable channels
- Music-controlled, tap-sync and auto run
- Polarity selector
- 4HE (4U) 19" rack mount
- Output connector: 3 and 5 pole XLR female
- MIDI compatible

Note:
Knowledge of DMX and Midi is required to fully utilize this unit.

Overview

Controller Front

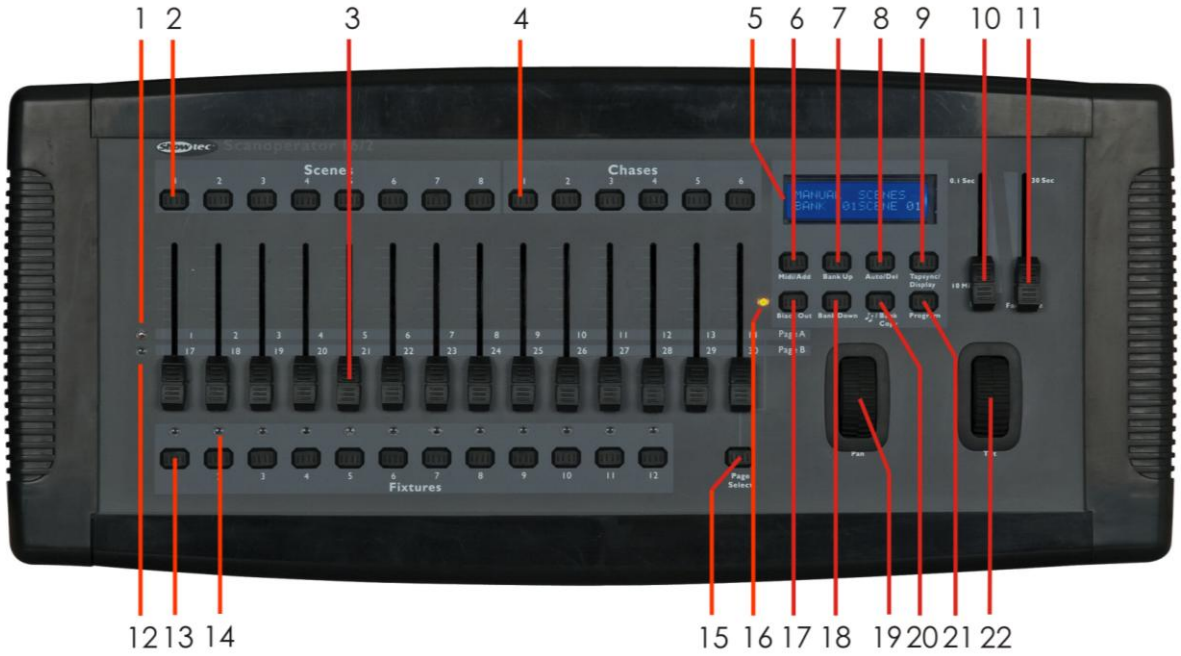


Fig. 1

1) Page A Indicator
LED represents Ch 1~14 range selected

2) Scene select buttons
Universal bump buttons representing scene location for storage and selection

3) Channel faders
For adjusting DMX values, Ch 1~8 can be adjusted immediately, after pressing the respective scanner select button, Ch 9~16 after pressing the Page select button

4) Chase buttons
Chase memory 1 ~ 6; These buttons are used for activating the chase of programmed scenes.

5) LCD display window
Status window displays pertinent operational data
6) Midi/Add button
Activates MIDI external control and also used to confirm the record/save process
7) Bank Up button
Press the Up button to select from 30 banks.
8) Auto/Del button
Activates Music mode or to delete scenes or chases during programming
9) Tapsync/Display button
Used to create a standard beat or to change the value mode between % and 0-255.
10) Speed fader
This will adjust the hold time of a scene or a step within a chase (range of 0.1 second to 10 minutes).
11) Fade Time fader
Used to adjust the fade time. Fade time is the amount of time it takes for a scanner (or scanners) to Move from one position to another, for the dimmer to fade in or fade out.
12) Page B Indicator
LED represents Ch 17~30 range selected
13) Fixture select buttons
To select fixtures for setting, programming or recording.
14) Fixture indicator
LED's Indicates the fixtures currently selected
15) Page select button
Used to select page between Page A (I-14) and Page B (17-30).
16) Page select button
Used to select page between Page A (I-14) and Page B (17-30).
17) Blackout indicator
LED light up if blackout is activated.
18) Bank Down button
Press the Down button to select from 30 banks.
19) Pan wheel
used to control the Pan of the scanner
20) Music/Bank Copy button
Activates Music mode or as the copy command during programming
21) Program button
22) Tilt wheel
used to control the Tilt of the scanner

Controller Backside

Fig. 2

23) 3-pin DMX output connector
24) 5-pin DMX output connector
25) DMX polarity switch May be used to change signal polarity
26) MIDI input port for external triggering of banks, scenes, chases, and blackout using a MIDI device
27) DC Input jack Main power feed
28) ON/OFF power switch Turns the controller on and off

Installation
Remove all packing materials from the SM-16/2. Check that all foam and plastic padding is removed. Screw the equipment into a 19" rack. Connect all cables.

Always disconnect from electric mains power supply before cleaning or servicing.
Damages caused by non-observance are not subject to warranty.

Common Terms
The following are common terms used in intelligent light programming.

Blackout is a state where all lighting fixtures' light output are set to 0 or off, usually on a temporary basis.

DMX-512 is an industry standard digital communication protocol used in entertainment lighting equipment. For more information read Sections "DMX Primer" and "DMX Control Mode" in the Appendix.

Fixture refers to your lighting instrument or other device such as a fogger or dimmer which you can control.

Programs are a number of scenes arranged one after another. It can be programmed as either a single scene or multiple scenes in sequence.

Scenes are static lighting states.

Sliders are also known as faders.

Chases can also be called programs. A chase consists of a number of scenes arranged one after another.

Scanner refers to a lighting instrument with a pan and tilt mirror; however DMX controllers can use this term to control any DMX-512 compatible device as a generic fixture.

MIDI is a standard for representing musical information in a digital format. A MIDI input would provide external triggering of scenes using midi devices such as a midi keyboard.

Stand Alone refers to a fixture's ability to function independently of an external controller and usually in sync to music, due to a built in microphone.

Fade slider is used to adjust the fade time between scenes within a chase.

Speed slider affects the amount of time a scene will hold its state. It is also considered a wait time.

Shutter is a mechanical device in the lighting fixture that allows you to block the lights path. It is often used to lessen the intensity of the light output and to strobe.

Patching refers to the process of assigning faders to a DMX channel within a fixture.

Playbacks can be either scenes or chases that are directly called to execution by the user. A playback can also be considered program memory that can be recalled during a show.

Set Up and Operation

Before plugging the unit in, always make sure that the power supply matches the product specification voltage. Do not attempt to operate a 120V specification product on 230V power, or vice versa.

RESETTING THE SYSTEM

Warning: this will reset the controller to its factory defaults. This will erase all programs and settings.
1) Turn off the unit.
2) Press and hold **BANK UP** and **AUTO/DEL**.
3) Turn on power to the unit (while still holding **BANK UP** and **AUTO/DEL**).
4) All LEDs will blink to indicate a successful reset
note: this process may take up to 30 seconds

Warning:
This will reset the controller to its factory defaults. This will erase all programs and settings.

FIXTURE ADDRESSING

The SM-16/2 is programmed to control 32 channels of DMX per fixture. Therefore, the fixtures you wish to control with the corresponding "**SCANNER**" buttons on the unit must be spaced 32 channels apart (check the respective fixture's manual for how to enter the information into the fixture).
Note: failure to use these DMX assignments may cause a lack of control of the fixtures.

PHYSICAL FADER ASSIGNMENT (OPTIONAL SETUP)

Use this feature to combine or unify fixture control attributes for different fixtures. For example; if you were controlling 4 moving mirrors and 4 moving yokes, the color, gobo and dimmer channels may not line up ideally on the physical faders. Use this function to re-assign the dimmer, color and gobo channels to faders 1, 2 and 3. From now on you will be able to control the same attributes on all fixtures using the same fader location.

1) Press and hold **PROGRAM** & **TAPSYNC** buttons together (1) time to access the channel assignment mode.
2) Press a **FIXTURE** button that represents the fixture whose faders you would like to re-assign.
3) Move the **SPEED** fader until you arrive at controller channel (number).
4) Move the **FADE TIME** fader to select the DMX channel.
5) Press the **MIDI/ADD** button to confirm setting.
6) Repeat steps 3 ~ 5 as often as necessary.

If you wish to copy a scanner's physical assignments to another scanner, continue by following steps 7-13. If you do not wish to do this, press and hold **PROGRAM** & **TAPSYNC** buttons (2) times to exit mode.

Example: Copying Scanner 1 into Scanner 2
1) Press and hold **PROGRAM** & **TAPSYNC** buttons together (1) time to access the channel assignment mode.
2) Press and hold **FIXTURE** button # 1.
3) While holding button # 1 press **FIXTURE** button # 2.
4) While holding **FIXTURE** buttons # 1 and # 2, press and hold **MIDI/ADD** button.
5) Release **FIXTURE** button # 1 first before releasing **FIXTURE** button # 2.
6) Release **MIDI/ADD** button.
7) All **FIXTURE** LED indicators will flash to confirm successful copy.
8) Press and hold **PROGRAM** & **TAPSYNC** buttons (2) times to exit mode.

REVERSE CHANNEL OUTPUT (OPTIONAL SETUP)

1) Press and hold **PROGRAM** & **TAPSYNC** buttons together (2) times to access the channel assignment mode then press the **FIXTURE** button.
2) Move the **SPEED** fader until you arrive at the controller channel you wish to alter.
3) Move the **FADE TIME** fader all the way up until N changes to Y.
If you wish to copy a scanner's reverse channel assignments to another scanner, continue by following steps 4-10. If you do not wish to do this, press and hold **PROGRAM** & **TAPSYNC** buttons (1) times to exit mode.

Example: Copying Scanner 1 into Scanner 2
1) Press and hold **FIXTURE** button # 1.
2) While holding button # 1 press **FIXTURE** button # 2.
3) While holding **FIXTURE** buttons # 1 and # 2, press and hold **MIDI/ADD** button.
4) Release **FIXTURE** button # 1 first before releasing **FIXTURE** button # 2.
5) Release **MIDI/ADD** button.
6) All **FIXTURE** LED indicators will flash to confirm successful copy.
7) Press and hold **PROGRAM** & **TAPSYNC** buttons (1) times to exit mode.

FADE TIME ASSIGN (OPTIONAL SETUP)

You can choose whether the board's fade time during scene execution is implemented broadly to all output channels or only to the Pan and Tilt movement channels. This is relevant because often you will want gobos and colors to change quickly while not affecting the movement of the light.

1) Turn OFF the controller.
2) Hold the **BLACKOUT** and **TAPSYNC** buttons simultaneously.
3) Turn ON the controller.
4) Press the **TAPSYNC** button to toggle between the two modes. Either all channels or just the selected Channels.
5) Press **BLACKOUT** and **TAPSYNC** to save settings. All LED's will blink to confirm.

Programming

A program (bank) is a sequence of different scenes (or steps) that will be called up one after another. In the SM-16/2 30 programs can be created of 8 scenes in each.

ENTERING PROGRAM MODE

Press the **PROGRAM** button for 3 seconds until "Program" is displayed. This indicates that the user is in programming mode.

CREATE A SCENE

A scene is a static lighting state. Scenes are stored in banks. There are 30 bank memories on the controller and each bank can hold 8 scene memories. The SM-16/2 can save a total of 240 scenes.

1) Press and hold the **PROGRAM** button for 3 seconds.
2) Select a **FIXTURE** to program.
3) Compose a look by moving the **FADERS**. (Changes in fixture attribute such as colors and gobos.) Press **PAGE SELECT** to access Channels 17~32 on the faders.
4) To program another **FIXTURE** press the **FIXTURE** button you have just finished programming then select another **FIXTURE** button to program.
5) Repeat steps 2 ~ 4 until you have your look.
6) Adjust the SPEED and FADE faders to achieve the desired amount of time a scene will be held in a chase (SPEED) and the amount of time allowed for the fixtures to move from one scene to the next (FADE).
7) Tap **MIDI/ADD** button to prepare to store.
8) Choose a **BANK** (01~30). Use the Up and Down arrow Bank buttons to change if necessary.
9) Select a **SCENES** button to store. All LED's will flash. The display will now display the bank and scene number that is stored.
10) Repeat steps 2 ~ 9 to record more scenes.
11) To exit program mode, hold the **PROGRAM** button for 3 seconds. The controller will default to a **BLACKOUT** when exiting the programmer.

Notes:

- Deselect **BLACKOUT** if LED is lit.
- A **FIXTURE** button represents one lightning fixture.
- You can acces channels 17~32 by pressing the **PAGE SELECT** button. This is necessary for fixtures that use more than 16 control channels. When switching pages it will be necessary to move previously moved faders up and down to activate.
- Pressing the same **FIXTURE** button again will hold the parameters changed for that fixture in the program scene.
- There are 8 scenes available in each bank.

EDIT A SCENE

1) Press the **PROGRAM** button for 3 seconds.
2) Locate the scene in the program **BANK**. Use **BANK UP/DOWN** to navigate program banks.
3) Select the **SCENE** in the program **BANK** to edit.
4) Adjust **FADERS** to change the look.
5) Press the **MIDI/ADD** button then the **SCENE** button again previously selected for editing.
6) To exit program mode, hold the **PROGRAM** button for 3 seconds. The controller will default to a **BLACKOUT** when exiting the programmer.

Note:

Deselect **BLACKOUT** if LED is lit.
The controller will display the last scene programmed when **MIDI/ ADD** is pressed. If programming in sequential order.

SCENE COPY

1) Press the **PROGRAM** button for 3 seconds.
2) Locate the scene in the program **BANK**. Use **BANK UP/DOWN** to navigate program banks.
3) Select the **SCENE** in the program **BANK** to copy.
4) Locate the destination scene in the program **BANK**. Use **BANK UP/DOWN** to navigate program banks.
5) Press the **MIDI/ADD** button then the new **SCENE** button to copy to.

6) To exit program mode, hold the **PROGRAM** button for 3 seconds. The controller will default to a **BLACKOUT** when exiting the programmer.

DELETE SCENE

1) Press the **PROGRAM** button for 3 seconds.
2) Locate the scene in the program **BANK**. Use **BANK UP/DOWN** to navigate program banks.
3) Press and hold the **AUTO/DEL** button while pressing the **SCENE** you want to delete.
6) To exit program mode, hold the **PROGRAM** button for 3 seconds. The controller will default to a **BLACKOUT** when exiting the programmer.

Note:

- The action of deleting a scene is actually a value reset to 0 on all DMX channels available to the scene memory. The fysical location of the scene memory remains.

DELETE ALL SCENES

1) Press and hold the **PROGRAM** button and the **BANK (▼)** while you turn the controller Off.

Note:

- All scenes should be erased while resetting the controller.

BANK COPY

1) Press the **PROGRAM** button for 3 seconds.
2) Locate the program **BANK**. Use **BANK UP/DOWN** to navigate program banks.
3) Press and release the **MIDI/ADD** button.
4) Locate the destination program **BANK**. Use **BANK UP/DOWN** to navigate program banks.
5) Press the **MUSIC/BANK-COPY** button to compete copy.

Note:

- All LEDs will flash to indicate a successful copy.

BANK DELETE

1) Press and hold the **PROGRAM** button for 3 seconds.
2) Locate the **BANK** to delete. Press the **AUTO/DEL** and **MUSIC/BANK-COPY** at the same time to delete the Bank.

Note:

- All LEDs will flash to indicate a successful delete action.

Chase Programming

A chase is created by using previously created scenes. Scenes become steps in a chase and can be arranged in any order you choose. It is highly recommended that prior to programming chases for the first time; you delete all chases from memory. *See "Delete All Chases"* for instructions.

CREATE A CHASE

A Chase can contain 240 scenes as steps. The term steps and scenes are used interchangeably.

1) Press and hold the **PROGRAM** button for 3 seconds.
2) Press the **CHASE** (1~6) button you wish to program.
3) Change **BANK** if necessary to locate a scene.
4) Select the **SCENE** to insert.
5) Tap the **MIDI/ADD** button to store. All LED's will flash 3 times.
6) Repeat steps 3 ~ 5 to add additional steps in the chase. Up to 240 steps can be recorded.
7) Press and hold the **PROGRAM** button for 3 seconds to save the chase.

COPY BANK INTO CHASE

1) Press and hold the **PROGRAM** button for 3 seconds to enter programming mode.
2) Select the **BANK** to be copied using the **BANK UP/DOWN** buttons.
3) Press **MUSIC/BANK COPY** and **Midi/Add** buttons at the same time to copy.
4) Press and hold the **PROGRAM** button for 3 seconds to exit programming mode.

ADDING A STEP TO A CHASE

1) Press and hold the **PROGRAM** button for 3 seconds to enter programming mode.
2) Press the desired **CHASE** (1~6) button.
3) Press the **TAPSYNC/Display** and the display will display the scene and bank number. This displays the scene you will be adding (**STEP** LED must be on),
4) Use the **BANK UP/DOWN** buttons to scroll through the chase and arrive at the step number for which you would like to add or append a scene/step to.
5) Press **MIDI/ADD** button and one step number will be added to the previously displayed step number.
6) Press the **SCENE** button that corresponds to the scene to be copied.
7) Press **MIDI/ADD** button again to add the new step.
8) Press and hold the **PROGRAM** button for 3 seconds to exit programming mode.

DELETE A SCENE/STEP IN A CHASE

1) Press and hold the **PROGRAM** button for 3 seconds to enter programming mode.
2) Press the desired **CHASE** (1~6) button that contains the scene to be deleted.
3) Press the **TAPSYNC/DISPLAY** button to switch the LED display to steps.
4) Select the scene/step to be deleted using the **BANK UP/DOWN** buttons.
5) Press and hold the **AUTO DEL** button and the respective **SCENE** button then release to delete the chase. All LED's will flash.
6) Press and hold **PROGRAM** button for 3 seconds to exit.

Note:

- Remember that we use scene and steps interchangeably.

DELETE A CHASE

1) Press and hold the **PROGRAM** button for 3 seconds to enter programming mode.
2) Press the **CHASE** button (1~6) that contains the chase to be deleted.
3) Press and hold the **AUTO DEL** button and the respective **CHASE** button then release to delete the chase. All LED's will flash.

Note:

- Scenes will remain programmed on the controller. Only the chase is affected.

DELETE ALL CHASE PROGRAMS

CAUTION! This procedure will result in irrevocable loss of chase step memory. The individual scenes and program banks will be preserved.

1) Press and hold the **BANK DOWN** button and the **AUTO DEL** button while turning OFF the controller.

Playback (Scenes)

RUNNING IN MANUAL MODE
When power is first turned ON, the controller will be in manual scene mode.
1) Make sure the display reads "**MANUAL**".
2) Select the program **BANK** that stores the scene you want to run manually by using the **BANK UP/DOWN**.
3) Press the **SCENE** button to run.

Note:
- If you are in programming mode you can also press and hold the **PROGRAM** button until the display shows "**MANUAL**" again.

RUNNING IN SOUND-MODE
1) Press the **MUSIC/BANK-COPY** button until the display reads "**MUSIC**".
2) Change **BANK** programs by using **BANK UP/DOWN** buttons if necessary.
3) Press the **MUSIC/BANK-COPY** to exit.

Note:
- In the sound mode, programs will be triggered by sound using the unit's built in microphone. All scenes in a bank will chase.

RUNNING IN AUTO-MODE
1) Press and hold the **AUTO DEL** button until the display reads "**AUTO**".
2) Change **BANK** programs by using **BANK UP/DOWN** buttons if necessary.
3) You can adjust the time between steps by moving the **SPEED** fader and the duration of the step by moving the **FADE TIME** fader.
4) You can change Banks while in operation by using the **BANK UP/DOWN** buttons.

Notes:
- In the auto mode, programs will be triggered by controllers fade and speed time as set on the faders. All scenes in a bank will chase.
- **Caution!** The fade setting should never be slower than the speed setting or the scene will never complete execution.
- To revert the programmed speed and fade time, tap the program button.

BLACKOUT
The **Blackout** button brings all lighting output to 0 or off (also called the home position of the unit).

Playback (Chases)

MANUAL RUN CHASES

This function allows the user to manually step through each individual step in a chase.
1) Press and hold **PROGRAM** button for 3 seconds to enter programming mode.
2) Start a chase by pressing any one of the **CHASE** buttons.
3) Press the **TAPSYNC/DISPLAY** button to manually step through the chase.
4) Use the **BANK** buttons to scroll through the chases.
5) Press and hold the **PROGRAM** button for 3 seconds to exit programming mode.

AUTO RUN CHASES

1) Press any one of the **CHASE** buttons.
2) Press and release the **Auto / Del** button. The corresponding LED will blink.
3) Adjust the **SPEED** and **FADE** faders to your liking.
4) You can override the speed and fade time by tapping the **TAPSYNC/DISPLAY** button (three) times. The chase will now run on the interval time of the taps.

Note:

- **Caution!** The fade setting should never be slower than the speed setting or the scene will never complete execution.

MUSIC RUN CHASES

1) Press any one of the **CHASE** buttons.
2) Press and release the **MUSIC/BANK COPY** buttons. The corresponding LED will blink in the display.
3) Your chase will now run to sound.

RUNNING SEQUENTIAL CHASES

1) Press either **AUTO DEL** or **MUSIC BANK COPY** buttons to select the trigger mode.
2) Press the CHASE button for each chase you wish to playback.
3) Adjust the Chase speed by changing the **SPEED** fader.

Notes:

- Chases must already be programmed.
- The chases will run in the order they are pressed.

Midi Operation

The controller will only respond to MIDI commands on the MIDI channel when it is set to full stop. All MIDI control is performed using Note on commands. All other MIDI instructions are ignored. To stop a chase, send the blackout on note.

1) Press and hold the **MIDI/ADD** button until the third and fourth digits on the LED display blink.
2) Select the MIDI control channel (1~16) via the **BANK UP/DOWN** buttons to set.
3) Press and hold the **MIDI/ADD** button to store midi setup settings.

Note:
This is the channel on which the controller receives MIDI note commands.

MIDI NOTE	FUNCTION (TURN ON/OFF)
00 to 07 Scenes	1~8 in BANK 1
08 to 15 Scenes	1~8 in BANK 2
16 to 23 Scenes	1~8 in BANK 3
24 to 31 Scenes	1~8 in BANK 4
32 to 39 Scenes	1~8 in BANK 5
40 to 47 Scenes	1~8 in BANK 6
48 to 55 Scenes	1~8 in BANK 7
56 to 63 Scenes	1~8 in BANK 8
64 to 71 Scenes	1~8 in BANK 9
72 to 79 Scenes	1~8 in BANK 10
80 to 87 Scenes	1~8 in BANK 11
88 to 95 Scenes	1~8 in BANK 12
96 to 103 Scenes	1~8 in BANK 13
104 to 111 Scenes	1~8 in BANK 14
112 to 119 Scenes	1~8 in BANK 15
120 Chase 1	
121 Chase 2	
122 Chase 3	
123 Chase 4	
124 Chase 5	
125 Chase 6	
126 BLACKOUT	

Maintenance

The Showtec SM-16/2 requires almost no maintenance. However, you should keep the unit clean. Disconnect the mains power supply, and then wipe the cover with a damp cloth. Do not immerse in liquid. Do not use alcohol or solvents.
Keep connections clean. Disconnect electric power, and then wipe the DMX and audio connections with a damp cloth. Make sure connections are thoroughly dry before linking equipment or supplying electric power.

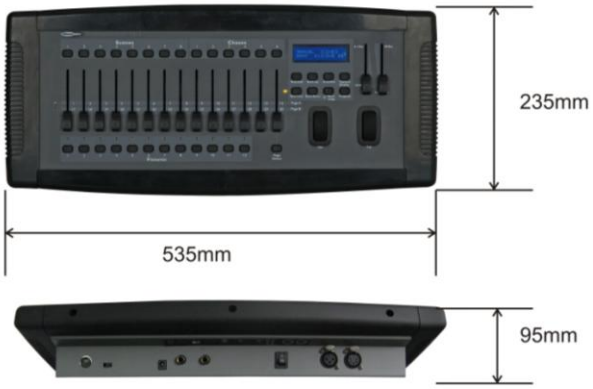
Troubleshooting

Showtec SM-16/2
This troubleshooting guide is meant to help solve simple problems. If a problem occurs, carry out the steps below in sequence until a solution is found. Once the unit operates properly, do not carry out following steps.

1. Fixture does not respond to controller: Check the DMX-address of the fixture and the controller. Make sure they match. Make sure the connections are correct. Check if blackout is off.
2. Interference between chases; If the same channel is assigned to different running chases, the one with the highest channel value will be put out.
3. Note: when in programming mode, as long as the LED indicator is lit, the value will be stored, even if the value is zero.
4. Except for the channels assigned to the jog wheels and the channels set with slope, slope is not assigned to the other channels.
5. For the master controlled channels, the master sliders are valid only when the dimmer buttons are activated (LED indicator is on). If some channels can't be controlled, please check if they are assigned to master control.
6. If the device does not operate properly, unplug the device.
7. Check power from the wall, all cables, the fuse, the settings (return to default), etc.
8. If all of the above appears to be O.K., plug the unit in again.
9. If nothing happens after 30 seconds, unplug the device.
10. Return the device to your Showtec dealer.

Product Specification

Model: Showtec SM-16/2
Power Supply: DC 9Volt - 300mA
Power connector: Adapter included
Fixtures: 12 (32 channels each)
Scenes: 240 (30 banks)
Chases: 180 (30 banks)
Run mode: Auto, Music
Patch mode: Each fixture free assignable channels
Output: DMX-512 standard
Output connector: 3 and 5 pole XLR female
Dimesions (without frame): 19" x 4U x 95mm (lxWxH)
Weight : 4 kg



Design and product specifications are subject to change without prior notice.

CE

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